
Ball and Socket Joint for a Motor Vehicle

Patent Claims

5 1. A ball and socket joint for a motor vehicle, with a housing (6) having a recess (5), a ball pivot (1) which has a pin (2) and a joint ball (3), which is mounted with its said joint ball (3) rotatably and pivotably in said recess (5) of said housing (6), whereby said pin (2) extends out through an opening (7) provided in said housing, a scaling bellows (11) arranged between said housing (6) and said pin (2) and a multipart measuring array (M), which has at least one signal transmitter (17, 18) and at least one
10 sensor (20, 21, 22), **characterized in that** said measuring array (M) is arranged between the pin-side end of said joint ball (3) and the pin-side end of said scaling bellows (11).

2. A ball and socket joint in accordance with claim 1, characterized in that part of said measuring array (M) is arranged at said pin (2) and another part of said measuring array (M) is arranged at said housing (6).

15 3. A ball and socket joint in accordance with claim 1 or 2, characterized in that a part of said measuring array (M) is arranged at an edge area (19) of said housing (6) which surrounds said opening (7).

4. A ball and socket joint in accordance with one of the above claims, characterized in that said signal transmitter (17, 18) is designed for producing a dipole field.

5. A ball and socket joint in accordance with claim 4, characterized in that said signal transmitter (17, 18) is formed by a magnet and said sensor (20, 21, 22) is formed by a magnetic-field-sensitive sensor.

6. A ball and socket joint in accordance with claim 5, characterized in that said signal transmitter (17, 18) is formed by a permanent magnet or by an electromagnet (26, 27).

5 7. A ball and socket joint in accordance with one of the above claims, characterized in that said measuring array (M) has a plurality of said signal transmitters (17, 18) and a plurality of said sensors (20, 21, 22).

8. A ball and socket joint in accordance with one of the above claims, characterized in that said measuring array (M) has two said signal transmitters (17, 18) and three said sensors (20, 21, 22).

10 9. A ball and socket joint in accordance with claim 8, characterized in that the two said signal transmitters (17, 18) are arranged diametrically opposite one another at said pin (2) and said sensors (20, 21, 22), forming the corner points of a triangle, are arranged at said edge area (19) of said housing (6) which surrounds said opening (7).